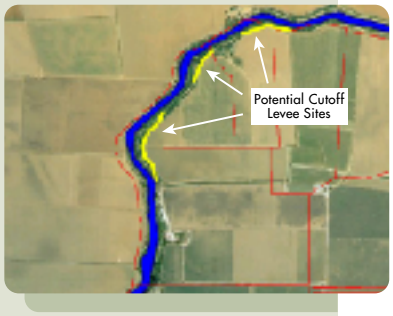
New Hope Tract Project

1986 flood breaches New Hope Levee, flooding Thornton and the surrounding countryside

Existing Shaded Riverine Aquatic Habitat along the Mokelumne River at New Hope Tract



With an assist from innovative engineering techniques, both people and habitat benefit from the New Hope Tract project

When floodwaters race down the Mokelumne River into the northeast Delta, the levees of New Hope Tract protect both the town of Thornton and the thousands of acres of valuable agricultural lands behind them. However, sometimes there is just too much water for the system, as occurred during the flood of February, 1986, when the New Hope Tract levee breached, sending destructive floodwaters across more than 10,000 acres.

To improve protection from these dynamic waters of the Mokelumne River, DWR is embarking upon a project to substantially improve the integrity of the existing levees and, at the same time, protect and even enhance valuable habitat resources. Habitat improves water quality, promotes flourishing ecological communities, and can actually work in tandem with physical engineered structures to improve flood protection. At New Hope Tract, an innovative approach will be used to simultaneously provide robust levees, preserve the outstanding existing habitat at several points along the current levee, and create wetlands nearby.

The levee improvement project site lies in a stretch of the Mokelumne River where the existing shaded riverine habitat is very well developed. To avoid disturbing this valuable streamside ecosystem, engineers have devised a solution which leaves the existing bank vegetation intact, while achieving premium flood protection. The key proposed levee design feature is to set the new crown further back from the river and back from the existing crown. This approach utilizes the existing levee structure in such a way that the waterside flora remains undamaged. Additionally, where thriving riparian forest habitat exists on the landside of the levee, cutoff levees are planned to avoid environmental impacts.

Another example of how the New Hope Tract Project seeks to achieve the twin goals of flood protection and ecosystem restoration involves the borrow material. In the process of excavating the material for levee fortification, DWR intends to create new wetland habitat within the borrow site. A likely location for borrow material is at Grizzly Slough, which is near the junction of the Mokelumne & Consumnes Rivers, and is in the heart of the historic floodplain. Restoration of this flood plain as wetlands has critical importance for both ecosystem function and flood hydrology. Building on the successes achieved during the first phase of the Grizzly Slough habitat creation project, the New Hope Tract Project plan expands this vital wetland area.

In the past, levee improvements usually came at the expense of habitat. The DWR Delta Levee Program's objective is to achieve the twin goals of both levee rehabilitation and habitat improvement by incorporating this objective as an interdependent, mutually-reinforcing design principle. The New Hope Tract Project is an example of how DWR, working closely with California Department of Fish & Game, CALFED, and, most importantly, the Reclamation District landowners and engineers, can rehabilitate threatened levees while protecting and enhancing the important ecological resources of the Delta.

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